

A B S T R A C T

The invention relates to wavelength division multiplex fiber optic transmission systems. It proposes a regenerator including a demultiplexer for separating the signals of various channels, a plurality of optical modulators each receiving signals from the demultiplexer and a modulation clock from a clock distribution unit, and a multiplexer combining the signals modulated by the modulators. The clock distribution unit includes a reference clock and, for each modulator, means for synchronizing the phase of a copy of the reference clock with the signals applied to the modulator. A phase-locked loop can be used for phase synchronization, with a phase shifter controlled in accordance with the average power of the signals at the output of the modulator. The invention enables only low-frequency components to be used to generate modulation clocks from a single reference clock.

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